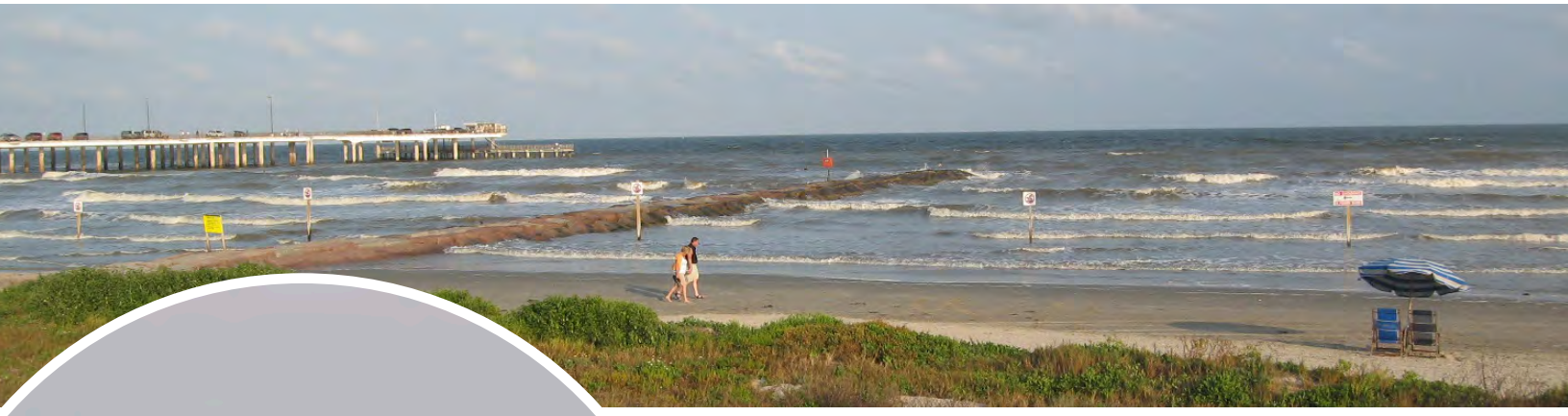
CEPRA

COASTAL EROSION PLANNING & RESPONSE ACT



Report to the 83rd Texas Legislature

TEXAS GENERAL LAND OFFICE • JERRY PATTERSON, COMMISSIONER

TEXAS GENERAL LAND OFFICE
JERRY PATTERSON, COMMISSIONER

April 18, 2013

Dear Honorable Members of the 83rd Texas Legislature:

I am pleased to submit this biennial report on the Coastal Erosion Planning and Response Act (CEPRA) program administered by the Texas General Land Office. Projects in the current funding cycle include beach restoration, dune restoration, marsh restoration, shoreline protection projects, and scientific studies. These projects provide more resilient barrier island and wetland systems, which are the first line of defense from hurricanes, tropical storms and high tides. Projects also provide improved recreational, fishing, and hunting opportunities for tourists and sportsmen.

The 83rd Legislature appropriated $22.5 million to the Texas General Land Office to administer coastal programs, which includes $15.3 million to fund coastal erosion projects. CEPRA funding was leveraged against $42 million of matching funds from federal and other local sources. Texas continues to experience hundreds of millions of dollars in unmet needs from local communities for coastal projects.

The projects included in this report underscore the importance of maintaining the barrier island and wetland systems. These serve as critical components for ensuring the security of Texas through protecting the billions of dollars of investments in infrastructure and the critical energy, chemical, and tourism industries. CEPRA projects also assist local communities and industry in their ability to recover from continuous coastal change. Whether it is tropical storms or economic changes that alter how coastal communities operate, the CEPRA program is making a positive impact. I am impressed with what the Land Office has accomplished with CEPRA funding provided for Cycle VII, and I feel certain you will be, too.

I look forward to our continued partnership in protecting the security and economy of the Texas coast.

Sincerely,

JERRY PATTERSON
Commissioner, Texas General Land Office

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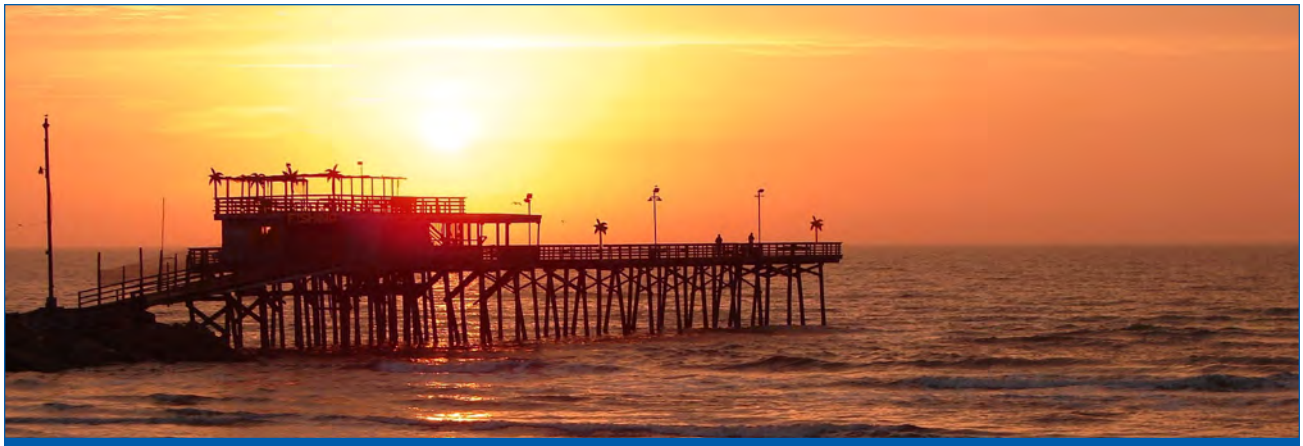

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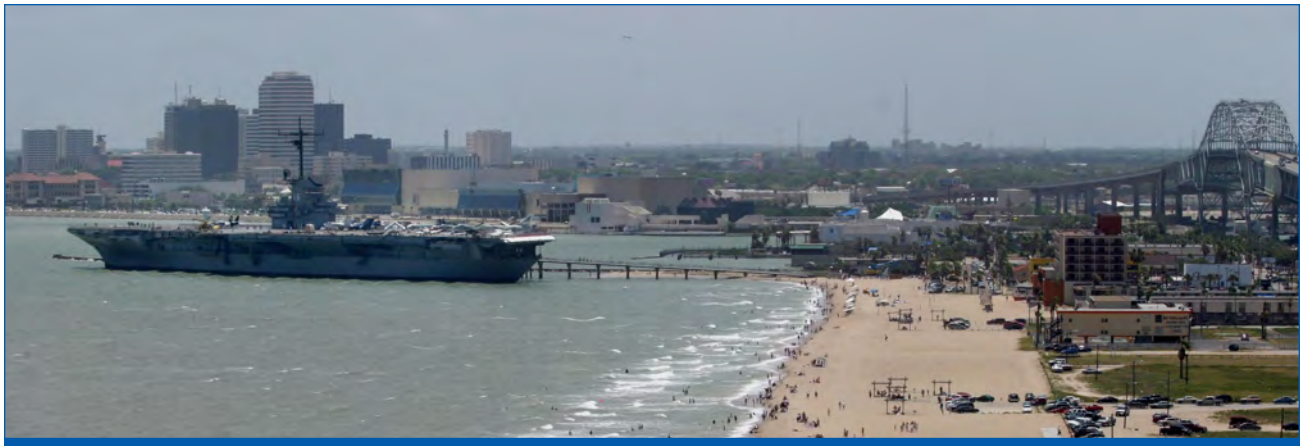


LIST OF ACRONYMS

BEG
Bureau of Economic Geology
(The University of Texas at Austin)

BMMP
Beach Monitoring and Maintenance Plan

BUDM
Beneficial Use of Dredged Material

CBBEP
Coastal Bend Bays and Estuaries Program

CEPRA
Coastal Erosion Planning and Response Act

ERP
Erosion Response Plan

FEMA
Federal Emergency Management Agency

GIWW
Gulf Intracoastal Waterway

GLO
Texas General Land Office

NWR
National Wildlife Refuge

OBA
Open Beaches Act

SPI
South Padre Island

INTRODUCTION

Texas has 367 miles of gulf-facing shoreline and approximately 3,300 miles of bay shoreline. The Texas coast has some of the highest coastal erosion rates in the country with some locations losing more than 55 feet per year. On average the Texas coast is eroding at 4.0 feet per year.

Coastal erosion results in the loss of property, which may reduce property values and reduce tourism in local communities. In addition, erosion results in the loss of beaches, dunes, and wetlands, which reduce impacts to coastal communities from tropical storms and hurricanes. Other coastal resources impacted by coastal erosion include the Gulf Intracoastal Waterway (GIWW), ports and ship channels, petrochemical facilities, road infrastructure, and other types of commercial businesses.

Moses Lake before the project.

The Coastal Erosion Planning and Response Act (CEPRA) was enacted on September 1, 1999, during the 76th Legislative Session. The General Land Office (GLO) Coastal Resources Division administers the CEPRA program with a goal to reduce impacts to valuable coastal resources caused by coastal erosion.

Beginning in 1999, the CEPRA program has been administered during seven cycles. Each cycle consists of a two-year period and coincides with the legislative biennium. Funding appropriated within the biennium must be encumbered and spent on projects within the biennium unless funding for a particular project is given "carryover" authority by the Legislature. Historically, carryover authority has been given to projects involving construction that are not anticipated to be completed within the biennium.

The CEPRA program partners with other state, federal, and local governments, as well as non-profit organizations to develop and fund coastal erosion projects. According to Texas Natural Resources Code, §33.603(e), beach nourishment projects require at least 25 percent match funding while other coastal erosion response studies or projects require at least 40 percent match funding. In addition to meeting minimum match fund-

Moses Lake after the project.

ing requirements, the CEPRA program consistently leverages additional funding through other funding sources such as grants. During the Cycle 7 biennium, $15,256,290 of CEPRA funding was leveraged to obtain $41,972,295 in match funding for a total of $57,228,585. (Table 1 and Figure 1).

The CEPRA program administers a wide variety of coastal projects to reduce impacts from coastal erosion. These projects include alternative analyses studies to evaluate different erosion response methods, engineering design of preferred methods, beach and dune restoration; habitat restoration of coastal wetlands; shoreline protection using hard and soft techniques; scientific studies to collect data in support of the program; structure removal assistance and debris removal; and other projects that continue to promote sound coastal stewardship.

In addition to coastal erosion, the CEPRA program must address other challenges including relative sea level rise, impacts from tropical storms and hurricanes, and the Severance v. Patterson lawsuit. The rate of relative sea level rise along the western coast of the Gulf of Mexico is substantially faster than the global trend, primarily due to land subsidence. CEPRA project teams must anticipate these changes in relative sea level rise when designing coastal projects. Approximately three tropical storms or hurricanes impact the Texas coast every four years, increasing erosion and damaging CEPRA projects (Roth, 2010). The Severance v. Patterson lawsuit challenged the public easement defined under the Texas Open Beaches Act. CEPRA projects are funded through public funds and therefore cannot be constructed in areas that are not accessible to the public through a public easement.

This report contains Cycle 7 highlights including critical erosion areas, proposed projects, funded projects, financial status of the CEPRA program, and an estimated cost to fund needs during the next CEPRA cycle. These reporting requirements are in accordance with Texas Natural Resources Code §33.608.

South Padre Island Beach.

CURRENT AND HISTORICAL FUNDING OF THE CEPRA PROGRAM

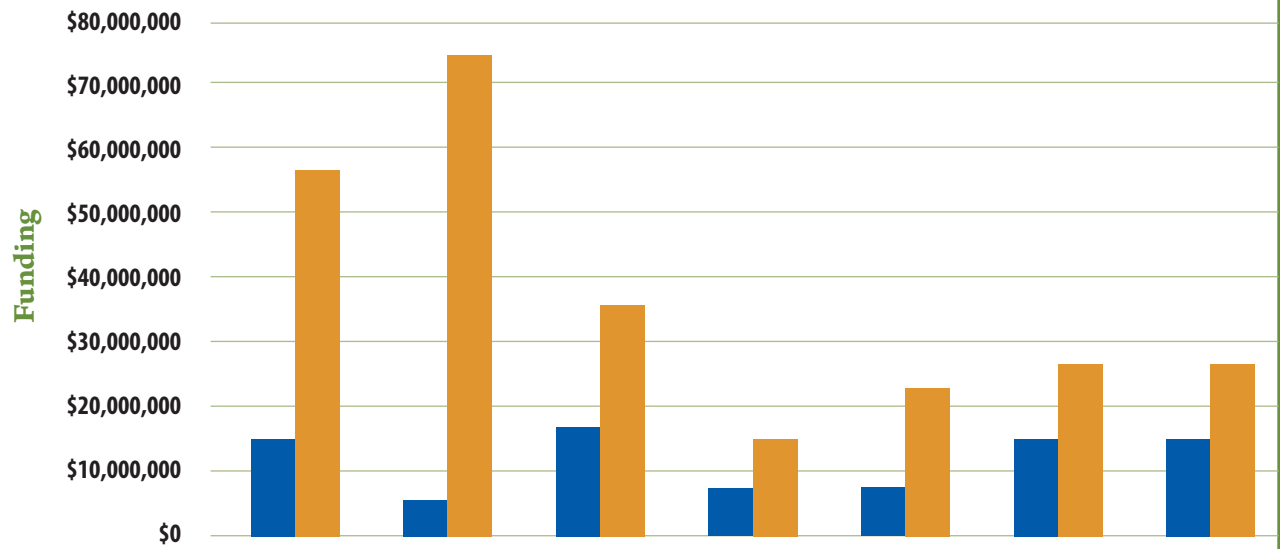
The 82nd Legislature appropriated $22,467,920 to the GLO to administer coastal programs. This appropriation was used in part to fund Cycle 7 projects and studies under CEPRA. Cycle 7 covers the period from September 1, 2011 to August 31, 2013. The Coastal Projects in the Cycle 7 Biennium section describes the projects and studies that are under way at this time. The funding was also leveraged against $41,972,295 of matching funds from federal and other local sources.

Table 1. Summary of CEPRA Funding Allocations by Cycle

Funding Cycle	No. of Projects Funded	CEPRA Funding	Partner Match	Federal Leverage	Other State/Local Leverage	Total Budget for Cycle
7 (FY12 - 13)	26	$15,256,290	$2,287,965	$39,684,330	$0	$57,228,585
6 (FY10 - 11)	28	$5,463,806	$13,090,187	$55,824,351	$0	$74,378,344
5 (FY08 - 09)	59	$17,822,687	$5,460,873	$12,866,313	$0	$36,149,873
4 (FY06 - 07)	49	$7,300,000	$2,035,616	$6,466,752	$0	$15,802,368
3 (FY04 - 05)	48	$7,320,000	$2,104,390	$12,862,988	$93,500	$22,380,878
2 (FY02 - 03)	63	$15,000,000	$5,732,233	$6,991,532	$0	$27,723,765
1 (FY00 - 01)	43	$15,000,000	$6,316,995	$6,059,267	$595,680	$27,971,942

Note: Cycle 5, 6, and 7 appropriations were $25M, $25.2M, and $22.5M respectively. These funds were provided to administer coastal programs which include, but are not limited to, projects under the CEPRA program. Cycle 6 appropriations were reduced to comply with the mandatory legislative budget reduction. Additionally, GLO management decided to take further reductions and return additional funds to the Legislature in order to assist with the statewide budget deficit.

Figure 1. Comparison of CEPRA Funding to Total Budget by Cycle



	Cycle 7	Cycle 6	Cycle 5	Cycle 4	Cycle 3	Cycle 2	Cycle 1
CEPRA	$15,256,290	$5,463,806	$17,822,687	$7,300,000	$7,320,000	$15,000,000	$15,000,000
Total Budget	$57,228,585	$74,378,344	$36,149,873	$15,802,368	$22,380,788	$27,723,765	$27,971,942

CRITICAL ERODING AREAS OF THE GULF COAST

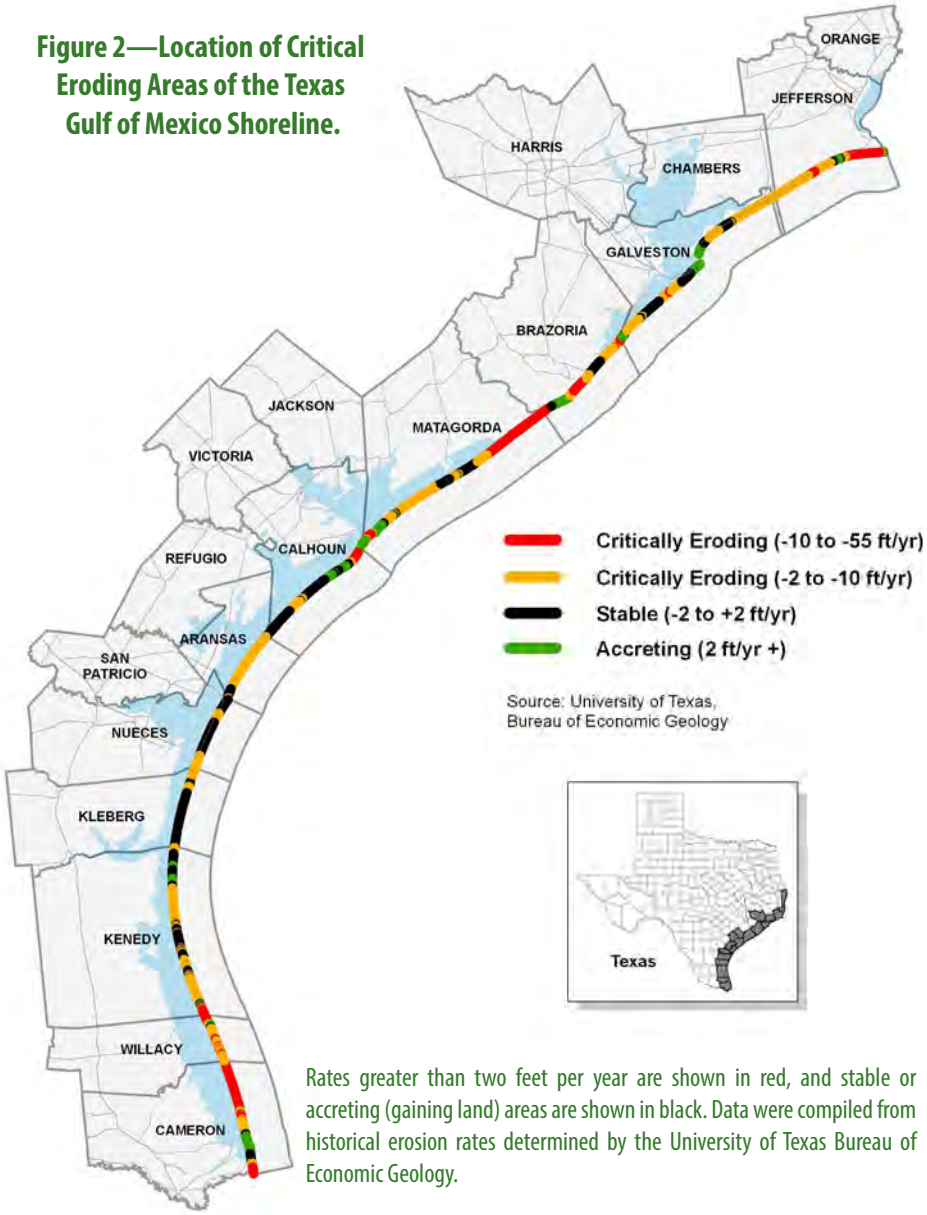
Eroding Areas of the Texas Gulf Coast

The 367 miles of the Texas gulf-facing shoreline is predominantly composed of low-elevation sandy beaches that are part of numerous long, narrow barrier island complexes, barrier peninsulas, and delta headlands. Behind these gulf-facing shores, an additional 3,300 miles of bay shorelines surround the many bays and estuaries that formed near the mouths of river systems. The majority of these gulf and bay shorelines are retreating due to coastal erosion.

Texas Natural Resources Code §33.601 defines coastal erosion as:

"The loss of land, marsh-

Figure 2—Location of Critical Eroding Areas of the Texas Gulf of Mexico Shoreline.



Rates greater than two feet per year are shown in red, and stable or accreting (gaining land) areas are shown in black. Data were compiled from historical erosion rates determined by the University of Texas Bureau of Economic Geology.

es, wetlands, beaches, or other coastal features within the coastal zone because of the actions of wind, waves, tides, storm surges, subsidence, or other forces."

The GLO Rules for Management of the Beach/Dune System (31 TAC §15.2 [31]) define a critically eroding area as a portion of the shoreline that is experiencing a historical erosion rate of greater than two feet per year based on published data of the University of Texas Bureau of Economic Geology (BEG). Section 33.601(4) of the Natural Resources Code defines a critical coastal erosion area as:

"A coastal area that is experiencing historical erosion, according to the most recently published data of the BEG, which the Commissioner finds to be a threat to:

- *Projects requiring a federal license or permit,*
- *Public health, safety or welfare;*
- *Public beach use or access;*
- *General recreation;*
- *Traffic safety;*
- *Public property or infrastructure;*
- *Private commercial or residential property;*
- *Fish or wildlife habitat; and*
- *An area of regional or national importance."*

Figure 2 and Table 2 illustrate the distribution and extent of critically eroding areas of the Texas coast. Eighty-four percent of the Texas gulf shoreline is retreating with a coastwide average rate of retreat of approximately four feet per year, with some extreme areas losing as much as 55 feet per year. Sixty-one percent of the Texas gulf shoreline is classified as critically eroding where the rate of shoreline retreat is greater than two feet per year. The areas experiencing the highest erosion rates in Texas are located along the upper Texas coast from Matagorda County northward, and on the lower Texas coast along South Padre Island in Willacy and Cameron counties. On average, 235 acres of land along the Texas Gulf Coast and the state's bays, estuaries, and navigation channels are lost each year to erosion.

Table 2. Miles of Critical Eroding Shoreline on the Texas Coast determined from average shoreline erosion rates measured over the past 70+ years by the University of Texas Bureau of Economic Geology.

Region	Total Coastal Miles	Critical Eroding Miles	Percent Eroding Shoreline
1-Sabine Pass to Bolivar Roads (Galveston County)	59.0	47.6	80.6%
2-Bolivar Roads to San Luis Pass	29.0	13.9	48.1%
3-San Luis Pass to Old Colorado River	63.1	45.6	72.3%
4-Old Colorado River to Aransas Pass	83.7	45.3	54.1%
5-Aransas Pass to Padre Island National Seashore	27.3	11.3	41.4%
6-Padre Island National Seashore to Mansfield Cut	64.1	29.2	45.5%
7-Mansfield Cut to Rio Grande River/U.S. Border	40.8	32.1	78.6%
Total	367.0	224.9	61.3%

COASTAL PROJECTS IN THE CYCLE 7 BIENNIUM

Cycle 7 Projects

Twenty-six projects were administered during the Cycle 7 biennium. This section includes a brief description of each project. The location of each project is included in Figure 3 while project allocations and expenditures for Cycle 6 and Cycle 7 projects are included in Tables 3 and 4.

Construction Projects

Jamaica Beach Dune Restoration (1482)

Partner: City of Jamaica Beach
Type: Dune Restoration
Budget: $2,155,766
Location: Galveston County
CEPRA Share: $50,000

Project Description

This project will repair a dune system damaged by Hurricane Ike. The project was originally built in June 2006 during CEPRA Cycle 4. Federal Emergency Management Agency (FEMA) Public Assistance funds will be combined with CEPRA and local partner funds to restore the engineered dune complex back to the original project specifications pre-Hurricane Ike.

GIWW Rollover Bay Reach Beach Nourishment with Beneficial Use of Dredged Material (BUDM) (1519)

Partner: U.S. Army Corps of Engineers (Corps)/Galveston County
Type: Beach Nourishment
Budget: $3,397,582
Location: Galveston County
CEPRA Share: $48,574

Project Description

Through a collaboration between the Corps, Galveston County, and the GLO, approximately 105,000 cubic yards of beach quality sand dredged from an annual maintenance dredging of the Rollover Bay Reach of the GIWW was placed onto 1,200 feet of beach to renourish Caplen Beach immediately west of Rollover Pass, an area that has experienced historical erosion rates of up to nine feet per year.

Rollover before the project.

Rollover after the project.

Bird Island Cove Marsh Restoration (1520)

Partner: Texas Parks and Wildlife Department
Type: Wetland Habitat Restoration
Budget: $1,670,000
Location: Galveston County
CEPRA Share: $410,000

Project Description

Bird Island Cove is located in Galveston County adjacent to Galveston Island in West Bay. Erosion and subsidence along West Galveston Bay shorelines have resulted in habitat and marsh loss. From the mid-1950s to 2002, the amount of estuarine marsh in West Galveston Bay has decreased by 32 percent, estuarine tidal flats have declined by 61 percent, and palustrine marshes have decreased by 50 percent. The project will protect approximately 114 acres of existing coastal wetlands through the construction of a breakwater protecting them from continued erosion and the restoration of approximately 70 acres of estuarine marsh complex.

End of Seawall Beach Nourishment (1521)

Partner: Galveston Park Board of Trustees
Type: Beach Nourishment
Budget: $4,027,227
Location: Galveston County
CEPRA Share: $775,000

Project Description

The Galveston Seawall is located in the City of Galveston and extends 10 miles along the gulf shoreline. The seawall was constructed to reduce impacts to Galveston Island from storm surge. The beach located adjacent to the west end of the seawall has experienced severe erosion resulting in the loss of beach near FM 3005. The project will include beach nourishment from the end of the seawall extending 2,000 feet to the west end of Dellanera RV Park. Beach nourishment along this area will protect FM 3005 which serves as a hurricane evacuation route.

South Padre Island Beach (SPI) Nourishment with BUDM (1524)

Partner: Corps/City of South Padre Island
Type: Beach Nourishment
Budget: $3,637,646
Location: Cameron County
CEPRA Share: $1,165,234
Coastal Impact Assistance Program

Project Description

This project addressed a highly utilized recreational beach within the City of South Padre Island that experiences erosion rates of up to 5.8 feet per year. Through collaboration between the Corps, the City of SPI, and the GLO, approximately 180,000 cubic yards of beach quality sand dredged from the Brownsville Ship Channel were placed onto 2,600 feet of beach. The CEPRA program was awarded a Coastal Impact Assistance Program grant to fund the project.

Isla Blanca BUDM during the project.

Isla Blanca BUDM during the project.

Isla Blanca Park Beach Nourishment with BUDM (1525)

Partner:	**Corps/Cameron County**
Type:	**Beach Nourishment**
Budget:	**$64,000**
Location:	**Cameron County**
CEPRA Share:	**$48,000**

Project Description

Through a partnership between the Corps, Cameron County, and the GLO, approximately 120,000 cubic yards of beach quality sand dredged from the Brownsville Ship Channel were placed onto 1,300 feet of beach. The gulf beach at Cameron County Isla Blanca Park on South Padre Island, Texas experiences erosion rates of up to 5.8 feet per year.

Indian Point Shoreline Stabilization & Habitat Protection (1527)

Partner:	**Coastal Bend Bays & Estuaries Program (CBBEP)**
Type:	**Shoreline Protection**
Budget:	**$750,000**
Location:	**San Patricio/Nueces counties**
CEPRA Share:	**$450,000**

Project Description

Indian Point Peninsula supports the section of U.S. Highway 181 that crosses Nueces Bay between the cities of Corpus Christi and Portland. While the peninsula itself is within San Patricio County, the surrounding bay waters are within Nueces County. CBBEP has documented the loss of approximately 340 acres of salt marsh due to the construction of Highway 181 and subsequent erosion since the 1940s. The project will complement a feasibility study conducted in June 2012 by completing final design, permitting, and construction of 2,500 feet of shoreline protection to protect existing marsh habitat and public infrastructure. The project will also protect property owned by the City of Portland, which includes an access road, parking lot, bathroom facilities, public fishing pier, and wetlands complex.

County Road 257 Dune Restoration (1529)

Partner:	**Brazoria County**
Type:	**Dune Restoration /Shoreline Protection**
Budget:	**$3,800,000**
Location:	**Brazoria County**
CEPRA Share:	**$1,700,000**

Project Description

The GLO partnered with Brazoria County to address the restoration of approximately five miles of dune system along the seaward side of an approximately nine-mile stretch of County Road 257 (CR257) on Follet's Island, between Treasure Island and the Village of Surfside. The island is eroding and was badly damaged by storms including Hurricane Ike. The beach and dune system along CR257 has experienced historical erosion rates of up to 10 feet per year. The beach/dune system has historically served as a shoreline protection barrier for CR257, an important hurricane evacuation route. In addition, the beach and dune system protects 2,148 acres of estuarine marsh, four acres of fresh water marsh, and 480 acres of tidal flats. Hurricane Ike caused major damage to the gulf shoreline beach and dune system along CR257, which placed over 2,632 acres of important habitat at risk.

McFaddin NWR Beach Ridge Restoration (1530)

Partner:	**Jefferson County**
Type:	**Shoreline Protection /Beach Nourishment**

Budget: $5,900,227
Location: Jefferson County
CEPRA Share: $1,000,000

Project Description

McFaddin National Wildlife Refuge (NWR) is located in Jefferson County and encompasses 58,800 acres of coastal marsh bordering the Gulf of Mexico. Severe erosion along the gulf shoreline has eroded the beach/beach ridge along the McFaddin NWR allowing frequent tidal exchange of seawater into formerly fresh and brackish marsh. If saltwater intrusion continues, the result will be marsh loss on a massive scale and gulf shoreline retreat until it reaches one of the busiest segments of the GIWW. In addition to providing environmental benefits, the existing marsh also reduces impacts from storm surge to the surrounding communities. The project includes beach nourishment seaward of a restored beach ridge that will be constructed during a Cycle 6 CEPRA project.

Sargent Beach Nourishment (1532)

Partner: Matagorda County
Type: Shoreline Protection
Budget: $3,797,096
Location: Matagorda County
CEPRA Share: $1,500,000

Project Description

Matagorda County and the GLO combined efforts to place approximately 200,000 cubic yards of sand on 4,000 feet of a highly eroding public beach. To address erosion rates as high as 24 feet per year, $1.5 million of CEPRA funds and $2.30 million of federal disaster recovery funds were administered by the GLO.

Sargent Beach during the project.

Sargent Beach during the project.

Nueces Bay Portland Causeway Marsh Restoration (1565)

Partner: CBBEP
Type: Shoreline Protection
Budget: $2,914,000
Location: San Patricio/Nueces counties
CEPRA Share: $475,000

Project Description

The Nueces Bay Portland Causeway Marsh is located on the northern portion of Indian Point Peninsula, north of Highway 181. CBBEP has documented the loss of approximately 340 acres of salt marsh due to the construction of Highway 181 and subsequent erosion since the 1940s. CBBEP previously acquired 33

Nueces Bay Portland Causeway Marsh Restoration project.

acres of undeveloped property along the northwest side of the peninsula, completed an alternatives analysis, obtained a Corps permit, and completed a first construction phase that restored over 80 acres of salt marsh complex along the peninsula's northwest side. A second construction phase is under way and will restore another 70+ acres of salt marsh complex when complete. This project will complement previous work along the peninsula's northwest side by constructing a 4,300-foot rock revetment/breakwater to protect the 160-acre restored marsh complex and public infrastructure.

Galveston Seawall Beach Nourishment (1566)

Partner:	**Galveston Park Board of Trustees**
Type:	**Shoreline Protection**
Budget:	**$16,110,358**
Location:	**Galveston County**
CEPRA Share:	**$500,000**

Project Description

The Galveston Seawall is located in the City of Galveston and was constructed to reduce impacts to Galveston Island from storm surge. The beach located along the seaward section of the seawall has experienced severe erosion. The project will include beach nourishment along the seawall between 17th and 61st streets. Beach nourishment along this area will protect FM 3005 which serves as a hurricane evacuation route.

Corpus Christi Beach Nourishment (1569)

Partner:	**To Be Determined**
Type:	**Beach Nourishment**
Budget:	**$2,340,000**
Location:	**Nueces County**
CEPRA Share:	**$2,340,000**

Project Description

Corpus Christi Beach is located in Nueces County along the northern shoreline of Corpus Christi Bay. According to surveys conducted in accordance with the Beach Monitoring and Maintenance Plan (BMMP) during Cycle 7, Corpus Christi Beach has experienced severe erosion and is in need of sand nourishment. The project will provide beach nourishment along Corpus Christi Beach in accordance with the BMMP.

Surfside Beach Nourishment (1570)

Partner:	**To Be Determined**
Type:	**Beach Nourishment**
Budget:	**$1,910,000**
Location:	**Brazoria County**
CEPRA Share:	**$1,910,000**

Project Description

Surfside Beach is located in Brazoria County along the Gulf of Mexico shoreline between the Freeport east jetty and Highway 332. According to surveys conducted in accordance with the BMMP during Cycle 7, Surfside Beach has experienced severe erosion and is in need of sand nourishment. The project will provide beach nourishment along Surfside Beach in accordance with the BMMP.

Bryan Beach Nourishment (1571)

Partner:	**To Be Determined**
Type:	**Beach Nourishment**
Budget:	**$75,000**
Location:	**Brazoria County**
CEPRA Share:	**$75,000**

Project Description

Bryan Beach is located in Brazoria County along the Gulf of Mexico shoreline to the west of the Freeport jetties. According to surveys conducted in accordance with the BMMP during Cycle 7, Bryan Beach has experienced severe erosion and is in need of sand nourishment. The project will provide beach nourishment along Bryan Beach in accordance with the BMMP.

Surfside Revetment Repair

Partner:	**To Be Determined**
Type:	**Shoreline Protection**
Budget:	**$1,041,298**
Location:	**Brazoria County**
CEPRA Share:	**$1,041,298**

Project Description

This project is part of an emergency erosion response to address critical erosion of the gulf-facing shoreline adjacent to Beach Drive at the Village of Surfside. The Surfside revetment was constructed in 2008 and repaired/enhanced after it was damaged during Hurricane Ike. However, due to severe erosion, the revetment is in need of repair. The project will repair damage to the revetment using CEPRA funds.

Preliminary Engineering, Studies, and Data Collection

Effects of Hurricane Ike Study, Phase II & III (1504)

Partner: None – GLO Project
Type: Study
Budget: $224,000
Location: Coastwide
CEPRA Share: $224,0000

Project Description

Phase I of this study was completed during CEPRA Cycle 5 and documented the impacts on, and conditions and recovery of the gulf-facing shorelines of the upper Texas coast immediately after the landfall of Hurricane Ike. It provides a preliminary review of the storm's intensity and impacts, along with recommendations for future monitoring and analyses required to document recovery. As part of a continuous and consistent long-term monitoring plan to provide information necessary to understand hurricane impacts and plan for future storms, Phases 2 and 3 documented the recovery of the gulf-facing shoreline of the upper Texas coast beach-dune system during Cycles 6 and 7.

End of Seawall Resen Waves Beach Stabilization Demonstration Project (1522)

Partner: None – GLO Project
Type: Study
Budget: $329,987
Location: Galveston County
CEPRA Share: $329,987

Project Description

The GLO partnered with a Professional Services provider and researchers at Texas A&M University-College Station and Galveston on Phase 1 of this internal GLO study to undertake a product evaluation of the Resen Waves artificial reef-type breakwater. The structure consists of an arch-shaped steel reinforcement frame charged with low voltage to cause the formation of calcite over the steel frame. Work on this phase consists of materials testing, physical modeling based on a one-quarter scale model of a breakwater structure in a laboratory wave tank environment, coastal numerical modeling, a feasibility assessment and reporting of findings.

Sabine Pass to Galveston Bay, Texas Feasibility Study (1523)

Partner: Corps
Type: Study
Budget: $1,305,061*
Location: Orange, Jefferson, Chambers, Harris, Galveston, Brazoria counties
CEPRA Share: $698,240

Project Description

The GLO partnered with the Corps as the non-federal sponsor to conduct the Sabine Pass to Galveston Bay Feasibility Study. The Sabine Pass to Galveston Bay study is focused on flood risk reduction, hurricane and storm damage reduction, and aquatic ecosystem restoration in Orange, Jefferson, Chambers, Harris, Galveston, and Brazoria counties. Strategies will be developed to reduce impacts from storm surge with measures that encompass the shore protection and ecosystem erosion issues along the upper southeast Texas coast. The study will provide recommendations for future actions and programs to reduce storm damage, improve the information available to coastal planners and engineers, and provide guidance to various agencies to help reduce structural and ecosystem degradation.

* *The study will be conducted over a three year period at a project cost no greater than $3,000,000.*

Nueces River Delta Stabilization & Habitat Protection (1528)

Partner: CBBEP
Type: Shoreline Protection
Budget: $187,500
Location: San Patricio and Nueces counties
CEPRA Share: $112,500

Project Description

The Nueces River Delta is located in San Patricio and Nueces counties, 20 miles northwest of downtown Corpus Christi and three miles southwest of the City of Odem. It covers land between Highway 77 (the delta's western boundary) and the back end of Nueces Bay (the delta's eastern boundary). The western-most shoreline of Nueces Bay is rapidly eroding the habitat of the Nueces River Delta, with a documented erosion rate of 8.2 feet per year. This project will protect the delta's wetland habitat by constructing a protective structure in the waters of Nueces Bay. This project will stabilize the eroding shoreline, thereby protecting thousands of acres of diverse coastal marsh and prairie habitat and living resources that lie behind the shoreline.

Green's Lake Shore Protection and Marsh Restoration (1531)

Partner: Ducks Unlimited
Type: Shoreline Protection
Budget: $57,869
Location: Galveston County
CEPRA Share: $34,722

Project Description

For the first time, the GLO partnered directly with Ducks Unlimited on behalf of the West Galveston Bay Property Owners group to address erosion along a 9,200-linear-foot stretch of the northern GIWW shoreline between the mouths of Greens and Carancahua Lakes along the northwest side of West Galveston Bay. Situated directly north of this segment of the GIWW is a large native marsh tract encompassing approximately 1,540 acres (2.4 square miles), which remains one of the largest and most intact marsh tracts in the western half of the Galveston Bay system. Consequently, shoreline protection measures are necessary to protect this marsh tract from further land loss and marsh degradation. This first phase of the project is an alternatives analysis comprised of data collection, preliminary design and permitting for the eventual construction of a breakwater along the northern GIWW shoreline, similar to other shoreline protection solutions constructed along segments of the GIWW. The total cost of this phase is $57,869, with $34,722 in CEPRA Cycle 7 funds being leveraged with $23,147 of in-kind engineering professional services from Ducks Unlimited.

Beach Monitoring and Maintenance Surveys (1535)

Partner: None – GLO Project
Type: Data Collection
Budget: $259,569
Location: Coastwide
CEPRA Share: $259,569

Project Description

According to FEMA, a BMMP is a prerequisite for receiving funding under the Public Assistance (PA) program for the mitigation of damages to engineered beaches impacted by federally declared disasters. In order to meet FEMA requirements, the GLO completed the BMMP in June 2010. In accordance with FEMA requirements, pre- and post-storm surveys will be used to determine the eligible volume of sand. Survey data are now collected every two years to measure sand loss/gain at each engineered beach. In addition, surveys are typically conducted prior to the corresponding hurricane season. This project conducted surveys of 13 beaches during Cycle 7 and resulted in the nourishment of Corpus Christi, Surfside, Bryan, and Sylvan beaches.

Economic and Natural Resource Benefits of CEPRA Cycle 6-7 Projects (1562)

Partner: None – GLO Project
Type: Study
Budget: $161,121

Location: **Coastwide**
CEPRA Share: **$161,121**

Project Description

The CEPRA statute requires the Land Commissioner to evaluate the natural resource and economic benefits of CEPRA projects and report these measured benefits to the Texas Legislature for each biennium that the Legislature provides CEPRA funding. This study quantified the economic benefits associated with CEPRA Cycle 6 and Cycle 7 construction projects, including calculation of storm damage reduction benefits. It also provided an evaluation of natural resource improvements associated with habitat restoration and protection projects using established methodologies. An executive summary of the findings can be reviewed in the Economic and Natural Resources Benefits section in this report.

Update of Critical Erosion Rates for the Texas Gulf Coast (1563)

Partner: **None – GLO Project**
Type: **Data Collection**
Budget: **$100,000**
Location: **Coastwide**
CEPRA Share: **$100,000**

Project Description

The GLO contracted the University of Texas Bureau of Economic Geology to update the long-term shoreline change rates along the Texas coast. Using $100,000 of CEPRA funds, the Bureau of Economic Geology analyzed LiDAR data collected in April 2012 to provide the most recent update of Texas coastal change rates since the impact of Hurricane Ike in 2008.

West Galveston Island Shoreline Stabilization Demonstration (1568)

Partner: **None – GLO Project**
Type: **Study**
Budget: **$1,000,000**
Location: **Galveston County**
CEPRA Share: **$1,000,000**

Project Description

This project includes the analysis and further development of the proposed shoreline stabilization alternative, concrete-filled barge breakwaters, for the West Galveston Island Shoreline Stabilization Demonstration Project along the Gulf of Mexico, and preliminary design of the preferred alternative. The project shoreline starts at 8-Mile Rd. on the northeast portion and ends at the southwestern terminus of Beachside Dr., extending approximately 0.9 miles in length.

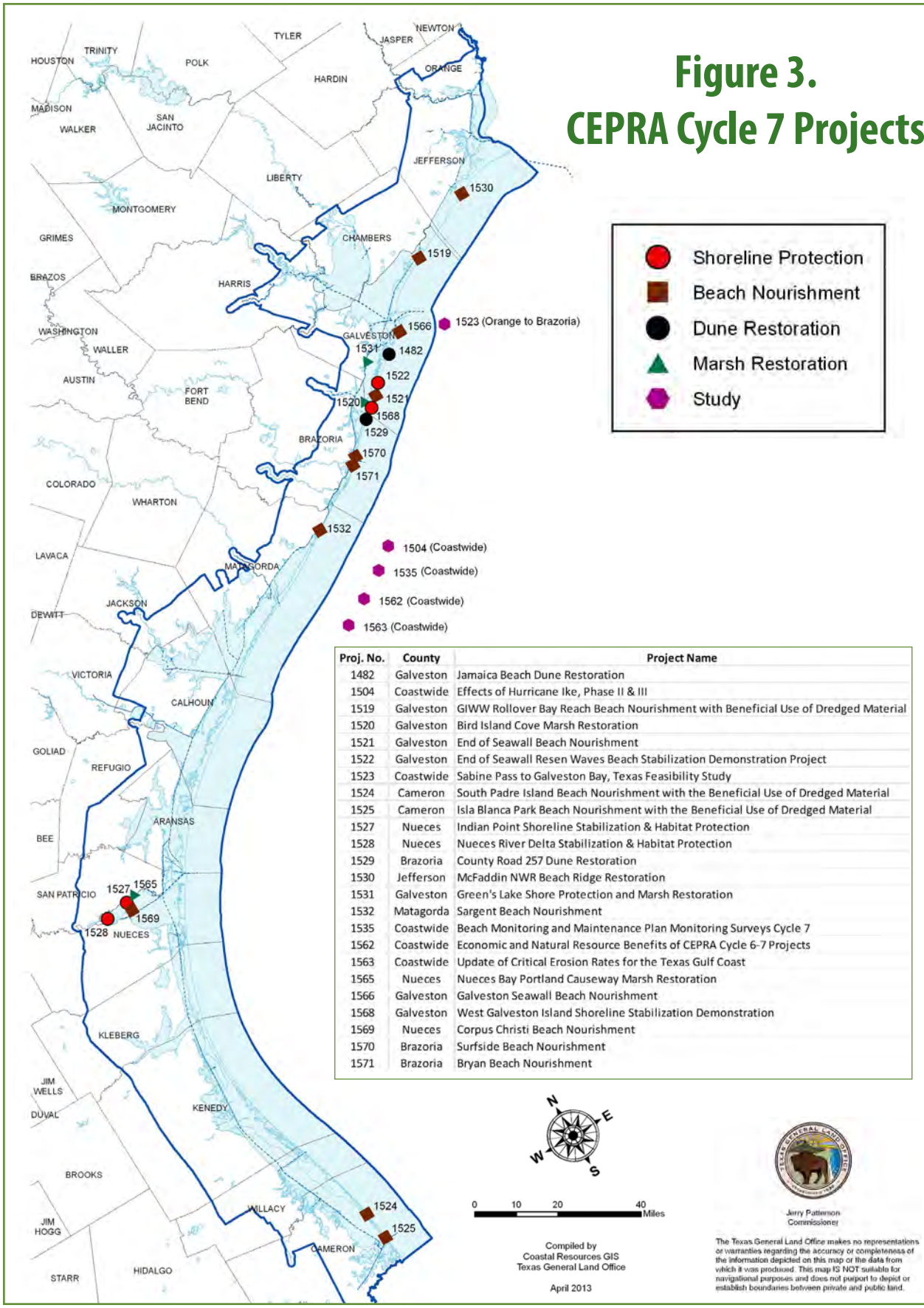
FEMA Project Worksheet Coordination

Partner: **None – GLO Project**
Type: **Project Management**
Budget: **$180,989**
Location: **Coastwide**
CEPRA Share: **$180,989**

Project Description

This project implemented consistency in FEMA Project Worksheet preparation and ensured timely, thorough, and accurate documentation for the GLO to implement coastal tropical storm damage recovery projects.

Figure 3.
CEPRA Cycle 7 Projects



Proj. No.	County	Project Name
1482	Galveston	Jamaica Beach Dune Restoration
1504	Coastwide	Effects of Hurricane Ike, Phase II & III
1519	Galveston	GIWW Rollover Bay Reach Beach Nourishment with Beneficial Use of Dredged Material
1520	Galveston	Bird Island Cove Marsh Restoration
1521	Galveston	End of Seawall Beach Nourishment
1522	Galveston	End of Seawall Resen Waves Beach Stabilization Demonstration Project
1523	Coastwide	Sabine Pass to Galveston Bay, Texas Feasibility Study
1524	Cameron	South Padre Island Beach Nourishment with the Beneficial Use of Dredged Material
1525	Cameron	Isla Blanca Park Beach Nourishment with the Beneficial Use of Dredged Material
1527	Nueces	Indian Point Shoreline Stabilization & Habitat Protection
1528	Nueces	Nueces River Delta Stabilization & Habitat Protection
1529	Brazoria	County Road 257 Dune Restoration
1530	Jefferson	McFaddin NWR Beach Ridge Restoration
1531	Galveston	Green's Lake Shore Protection and Marsh Restoration
1532	Matagorda	Sargent Beach Nourishment
1535	Coastwide	Beach Monitoring and Maintenance Plan Monitoring Surveys Cycle 7
1562	Coastwide	Economic and Natural Resource Benefits of CEPRA Cycle 6-7 Projects
1563	Coastwide	Update of Critical Erosion Rates for the Texas Gulf Coast
1565	Nueces	Nueces Bay Portland Causeway Marsh Restoration
1566	Galveston	Galveston Seawall Beach Nourishment
1568	Galveston	West Galveston Island Shoreline Stabilization Demonstration
1569	Nueces	Corpus Christi Beach Nourishment
1570	Brazoria	Surfside Beach Nourishment
1571	Brazoria	Bryan Beach Nourishment

Table 3. Cycle 6 Project Allocations and Expenditures

Project Number	Project Name	County	Project Type	CEPRA Allocation	CIAP Allocation	FEMA HB 4586 Allocation	FEMA PW Allocation	Local Allocation	Federal Allocation (Other)	Total Project Cost	Total Expenditure
1516	McFaddin NWR Beach Ridge Stabilization	Jefferson	DR	$50,000	$490,000				$3,200,000	$3,740,000	$190,250
1495	Closure of Rollover Pass	Galveston	SP	$1,336,131				$5,163,869		$6,500,000	$331,438
1494	Rollover Pass BN BUDM, + BN Permitting	Galveston	BN	$300,000				$50,000	$1,400,000	$1,750,000	$258,517
1395	Moses Lake Phase II	Galveston	SP	$300,000				$105,000	$338,150	$743,150	$26,079
1391	WGI Emergency Beach Nourishment	Galveston	BN	$266,055		$3,716,506				$3,982,562	$4,100,362
1483	West Galveston Bay Estuarine	Galveston	HR	$647,597.00				$250,000	$5,148,369	$6,045,966	$5,345,325
1482	Jamaica Beach Dune Restoration	Galveston	DR	$75,354			$1,963,008	$142,758		$2,181,120	$0
1481	McAllis Point Habitat Restoration	Galveston	HR	$295,620				$197,080	$915,000	$1,407,700	$1,058,003
1515	Surface Relocation	Galveston	SR	$50,000						$50,000	$50,000
1384	San Luis Pass Inlet Mgmt Study	Galveston	SM	$100,000	$300,000					$400,000	$101,520
1382	CR 257 Shoreline Protection	Brazoria	SP	$300,000	$400,000			$6,084,000	$21,262,000	$28,046,000	$896,094
1517	Stonehenge Structure Relocation	Brazoria	SR	$24,900						$24,900	$24,900
1471	Surfside Shoreline Stabilization	Brazoria	SP	$79,710			$717,393			$797,104	$73,266
1509	Surfside Feasibility Study - Update	Brazoria	SM	$19,382						$19,382	$19,382
1511	Surfside Emergency Beach Nourishment	Brazoria	BN	$513,782	$5,000,000	$894,000	$1,024,036		$600,000	$8,031,818	$6,229,143
1376	Sargent Beach	Matagorda	BN	$27,987						$27,987	$7,761
1463	Port Aransas Nature Preserve Repair	Nueces	SP	$52,065			$780,985	$34,710		$867,761	
1356	South Padre Island BN	Cameron	BN	$1,583						$1,583	$1,583
1456	SPI Beach Nourishment BUDM	Cameron	BN	$544,291				$181,430	$1,113,500	$1,839,222	$723,527

Cycle 6 Project Allocations and Expenditures (Cont'd)

Project Number	Project Name	County	Project Type	CEPRA Allocation	CIAP Allocation	FEMA HB 4586 Allocation	FEMA PW Allocation	Local Allocation	Federal Allocation (Other)	Total Project Cost	Total Expenditure
1456-B	SPI Beach Nourishment BUDM	Cameron	BN		$1,800,000			$600,000	$3,870,451	$6,270,451	$2,400,000
1459	SPI CEMS Beach Stabilization	Cameron	SP	$60,732				$21,338		$82,071	
1510	SPI CEMS Independent Review	Cameron	SM	$11,722						$11,722	$11,722
1453	Isla Blanca Park Beach Nourishment BUDM	Cameron	BN	$30,000				$10,000	$750,000	$790,000	$12,660
1504	Effects of Hurricane Ike, Phase II & III	Coastwide	SM	$167,497						$167,497	$55,803
1505	Econ & Nat Resource Benefit Cycle VI	Coastwide	SM	$122,930						$122,930	$76,484
1506	CEPRA Cycle VI Aerial Photography	Coastwide	SM					$250,000	$10,400	$260,400	$4,926
1507	Update of Critical Erosion Areas	Coastwide	SM	$58,967					$88,551	$147,518	$147,264
1508	Coastwide Erosion Plan Update 2010-2011	Coastwide	SM	$27,496					$42,000	$69,496	$69,496
Total				$5,463,806	$7,990,000	$4,610,506	$4,485,422	$13,090,186	$38,738,421	$74,378,343	$22,215,516

Table 4. Cycle 7 Project Allocations and Expenditures

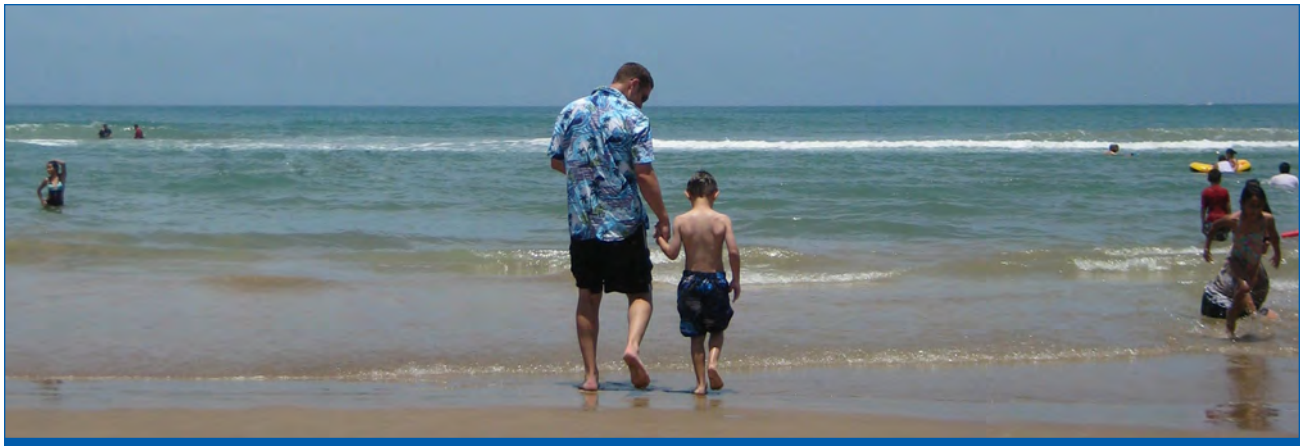
Project Number	Project Name	County	Project Type	CEPRA Allocation	CIAP Allocation	FEMA HB 4586 Allocation	FEMA PW Allocation	Local Allocation	Federal Allocation (Other)	Total Project Cost	Total Expenditure
1523	Sabine Pass to Galveston Bay, Texas Feasibility Study	Coastwide	SM	$698,240					$606,821	$1,305,061	$10,419
1530	McFaddin NWR Beach Ridge Restoration	Jefferson	BN	$1,000,000	$4,800,226			$100,000		$5,900,226	$0
1519	GIWW Rollover Bay Reach Beach Nourishment with Beneficial Use of Dredged Material	Galveston	BN	$48,574				$16,191	$3,332,816	$3,397,582	$64,766

Cycle 7 Project Allocations and Expenditures (Cont'd)

Project Number	Project Name	County	Project Type	CEPRA Allocation	CIAP Allocation	FEMA PW Allocation	Local Allocation	Federal Allocation (Other)	Total Project Cost	Total Expenditure
1566	Galveston Seawall Beach Nourishment	Galveston	BN	$500,000		$15,009,960	$600,398		$16,110,358	$0
1521	End of Seawall Beach Nourishment	Galveston	BN	$775,000		$2,826,167	$426,059		$4,027,226	$417
1522	End of Seawall Resen Waves Beach Stabilization Demonstration Project	Galveston	SP	$329,987					$329,987	$1,415
1568	West Galveston Island Shoreline Stabilization Demonstration	Galveston	SM	$1,000,000					$1,000,000	$0
1531	Green's Lake Shore Protection and Marsh Restoration	Galveston	SP	$34,722			$23,147		$57,869	$0
1482	Jamaica Beach Dune Restoration	Galveston	DR	$50,000		$1,963,008	$142,758		$2,155,766	$0
1520	Bird Island Cove Marsh Restoration	Galveston	HR	$410,000			$200,000	$1,060,000	$1,670,000	$0
1529	County Road 257 Dune Restoration	Brazoria	DR	$1,700,000	$2,100,000				$3,800,000	$0
1570	Surfside Beach Nourishment	Brazoria	BN	$1,910,000					$1,910,000	$0
NA	Surfside Revetment Repair	Brazoria	SP	$1,041,298					$1,041,298	$0
1571	Bryan Beach Nourishment	Brazoria	BN	$75,000					$75,000	$0
1532	Sargent Beach Nourishment	Matagorda	DR	$1,500,000				$2,297,096	$3,797,096	$0
1527	Indian Point Shoreline Stabilization & Habitat Protection	Nueces	SP	$450,000			$300,000		$750,000	$0
1565	Nueces Bay Portland Causeway Marsh Restoration	Nueces	HR	$475,000	$2,339,000			$100,000	$2,914,000	$0

Cycle 7 Project Allocations and Expenditures (Cont'd)

Project Number	Project Name	County	Project Type	CEPRA Allocation	CIAP Allocation	FEMA PW Allocation	Local Allocation	Federal Allocation (Other)	Total Project Cost	Total Expenditure
1528	Nueces River Delta Stabilization & Habitat Protection	Nueces	SP	$112,500			$75,000		$187,500	$0
1569	Corpus Christi Beach Nourishment	Nueces	BN	$2,340,000					$2,340,000	$0
1524	South Padre Island Beach Nourishment with the Beneficial Use of Dredged Material	Cameron	BN		$1,165,234		$388,411	$2,084,000	$3,637,646	$1,491,646
1525	Isla Blanca Park Beach Nourishment with the Beneficial Use of Dredged Material	Cameron	BN	$48,000			$16,000		$64,000	$0
1535	Beach Monitoring and Maintenance Plan Monitoring Surveys Cycle 7	Coastwide	SM	$259,569					$259,569	$111,485
1562	Economic and Natural Resource Benefits of CEPRA Cycle 6-7 Projects	Coastwide	SM	$161,121					$161,121	$0
1563	Update of Critical Erosion Rates for the Texas Gulf Coast	Coastwide	SM	$100,000					$100,000	$0
1504	Effects of Hurricane Ike, Phase II & III	Coastwide	SM	$56,289					$56,289	$55,803
NA	FEMA PW Management	Coastwide	SM	$180,989					$180,989	$180,989
Total				$15,256,290	$10,404,461	$19,799,135	$2,287,965	$9,480,733	$57,228,585	$1,916,941



ECONOMIC AND NATURAL RESOURCES BENEFITS OF THE CEPRA PROGRAM

Texas' coastal assets, including infrastructure, industry, public and private property, beaches, dunes, wetlands, marshes, and parks, provide significant economic value for the Texas citizenry. Natural and man-made activities, such as storms or cuts in barrier islands, and their subsequent consequences of erosion and increased damage to property and infrastructure adversely affect these coastal assets. The Texas Legislature requires the GLO to report the economic and natural resource benefits derived from CEPRA construction projects every biennium. As such, the GLO contracted Taylor Engineering, Inc. to perform the benefit-cost analyses for selected Cycle 6 and 7 construction projects. The study reported that the state of Texas received $8.40 in economic and financial benefits for every dollar of state funding invested in these projects. This result is based on analysis of the following eight CEPRA Cycle 6 and 7 projects, which is a representative sampling of the CEPRA program:

- *#1395 Moses Lake Shoreline Protection Phase 2*
- *#1456-B South Padre Island (SPI) Beach Nourishment with Beneficial Use of Dredged Material (BUDM) (2011 Event)*
- *#1471 Surfside Shoreline Stabilization (FEMA Repair/Enhancement)*
- *#1511 Surfside Emergency Beach Nourishment and Dune Restoration Phases 1 & 2*
- *#1519 GIWW-Rollover Bay Reach Beach Nourishment with BUDM (2012 Event)*
- *#1481 McAllis Point Estuarine Habitat Restoration*
- *#1524 SPI Beach Nourishment with BUDM (2013 Event)*
- *#1525 Isla Blanca County Park Beach Nourishment with BUDM (2013 Event)*

The project benefits analyses classified and estimated economic and financial benefits associated with commercial and recreational fishing, tourism and ecotourism (wildlife viewing), improved water quality, carbon sequestration, beach recreation, out-of-state visitor spending, non-Texas project funding, and storm protection. The stream of economic benefits over time varied from project to project depending on a project's durability. The period of analysis for the various projects varied from 1 to 25 years.

The study adopted a Texas accounting perspective. Funding from outside Texas and spending by visitors from outside the state represent financial benefits to the state. A Texas accounting perspective views project contributions normally considered a cost when viewed from a national or world perspective as a financial benefit. Costs funded by non-Texas dollars represent a financial benefit because money flows into the Texas economy. As appropriate, the findings show this adjustment to reflect the Texas accounting perspective for

the estimates of benefits and costs. The report served to estimate the cost effectiveness of the eight projects listed above via benefit-to-cost ratios and net benefits on an individual project basis, and as a group, or "portfolio." Notably, by excluding spending by Texas residents, this study provided conservative estimates of benefits for each individual project yet provided a reasonable estimate of the benefits that CEPRA construction projects bring to the state of Texas as a whole.

Table 5 on page 22 presents a summary of the assessed projects. The direct and positive net benefits (B/C ratios greater than one) from the eight evaluated projects combined indicate that these coastal erosion control projects yield high returns on investment for the state of Texas. Preserving Texas' coastal assets proves a worthy public investment strategy for Texas taxpayers and citizens.

The leveraging of federal participation played a substantial role for several projects. The low Texas costs of the beach nourishment projects at Isla Blanca County Park and the City of South Padre Island reflect the substantial cost savings from partnership with the Corps for the beneficial use of dredged material. These projects placed beach fill at effective unit costs of $0.89 per cubic yard of beach fill at Isla Blanca County Park and $2.10 per cubic yard of beach fill at the City of South Padre Island (2011 and 2013 projects combined). The beach nourishment at Rollover Pass, with a unit cost of $0.62 per cubic yard of beach fill, also represents effective partnership with the Corps. However, the low benefit-to-cost ratio reflects the project area's relatively low property values and visitation rates compared to the above projects. The benefit-to-cost ratios of these beach nourishment projects do not include federal spending as a benefit, because the federal dredging projects would occur even without the beach nourishment; thus the benefits presented in Table 5 solely reflect the visitation, recreation, and/or storm damage protection benefits of these projects.

Federal spending on CEPRA projects is also important from a Texas point of view because it reflects financial inflows to the state economy and lowers project costs to Texas. Several of the evaluated projects realized these benefits. The Surfside Beach revetment enhancement and beach nourishment projects experienced federal spending benefits ($8,596,205 discounted present worth) from funding by FEMA and the Coastal Impact Assistance Program. Similarly, Moses Lake Shoreline Protection Phase 2 experienced federal spending benefits ($299,471 discounted present worth) from funding by the U.S. Fish & Wildlife Service and National Coastal Wetlands Conservation Grant—issued under the Coastal Wetlands Planning, Protection and Restoration Act—as well as in-kind contributions from The Nature Conservancy. The McAllis Point Estuarine Habitat project experienced federal spending benefits ($1,013,342 discounted present worth) from a National Oceanic Atmospheric Administration Estuary Restoration Act Grant.

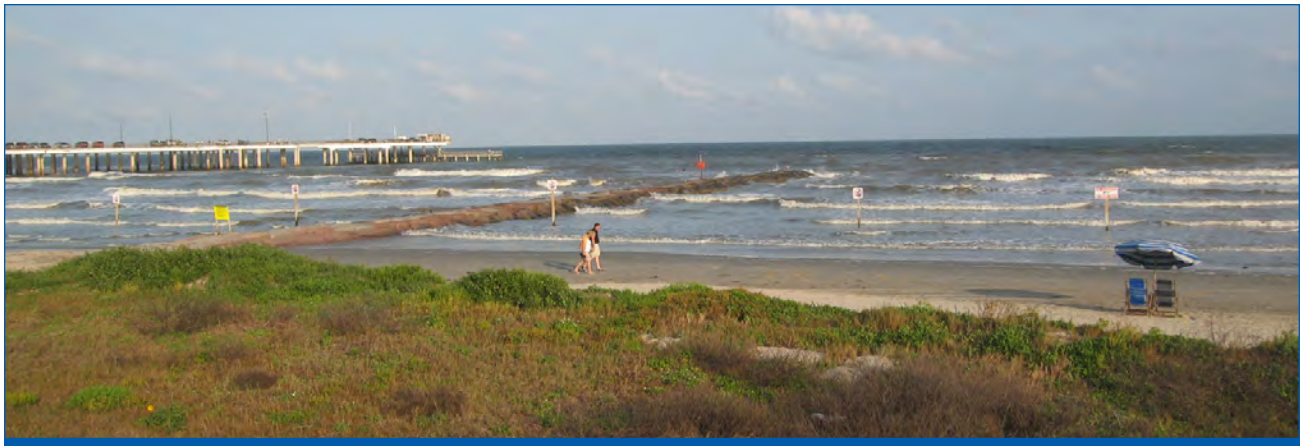
As a final note, the annual discount rate of 3.92 percent is based on an average of 20-year AAA and AA corporate bond rates existing at the time of study initiation. The discount rate is used to convert values occurring at different points in time to comparable equivalent values ("discounted present worth") at a common point in time, which in Table 5 is the beginning of 2013.

Table 5. Summary of CEPRA Cycle 6 & 7 Projects, Costs and Benefits

Project Number	Project Name	County	Year	Texas Cost[1]	Total Discounted Cost[2]	Total Discounted Benefits[2]	Benefit -to-Cost (B/C) Ratio
1395	Moses Lake Shoreline Protection Phase 2	Galveston	2013	$328,294	$328,294	$376,828	1.2
1356	South Padre Island Beach Nourishment with Beneficial Use of Dredged Material	Cameron	2013	$610,248	$457,686	$356,931	0.58
1379	Surfside Revetment Project	Brazoria	2013	$1,373,395	$1,287,558	$11,302,986	8.23
1456-B	SPI Beach Nourishment with BUDM (2011 Event)	Cameron	2011	$716,985	$774,298	$1,324,390	1.7
1471	Surfside Shoreline Stabilization (FEMA Repair/Enhancement)	Brazoria	2011	$151,449	$1,447,756	$21,280,560	14.7
1511	Surfside Emergency Beach Nourishment and Dune Restoration Phases 1 & 2	Brazoria	2010 & 2012	$1,189,144			
1519	GIWW-Rollover Bay Reach Beach Nourishment with BUDM (2012 Event)	Galveston	2012	64,766	$67,305	$11,709	0.2
1481	McAllis Point Estuarine Habitat Restoration	Galveston	2011	$613,566	$662,612	$2,113,976	3.2
1524	SPI Beach Nourishment with BUDM (2013 Event)	Cameron	2013	$446,915	$446,915	$4,053,811	9.1
1525	Isla Blanca Beach Nourishment with BUDM (2013 Event)	Cameron	2013	$64,000	$64,000	$2,563,252	40.1
Total				$3,575,119	$3,791,180	$31,724,526	8.4

[1] Texas portion only; Dollar values reflect present worth equivalents at the beginning of the year of project construction

[2] Dollar values reflect present worth equivalents at the beginning of 2013 with a 3.92% discount rate



LEGISLATION FROM THE 82ND LEGISLATURE AFFECTING THE CEPRA PROGRAM

Erosion Response Plans (ERPs)

During the 81st Legislative Session, local governments were required to establish and implement a plan to reduce public expenditures for erosion and storm damages. The plans may include provisions for establishing a building setback, protecting public beach access and the public beach easement, and procedures for preserving, restoring, and enhancing critical sand dunes that are necessary to protect public and private property from storms and erosion.

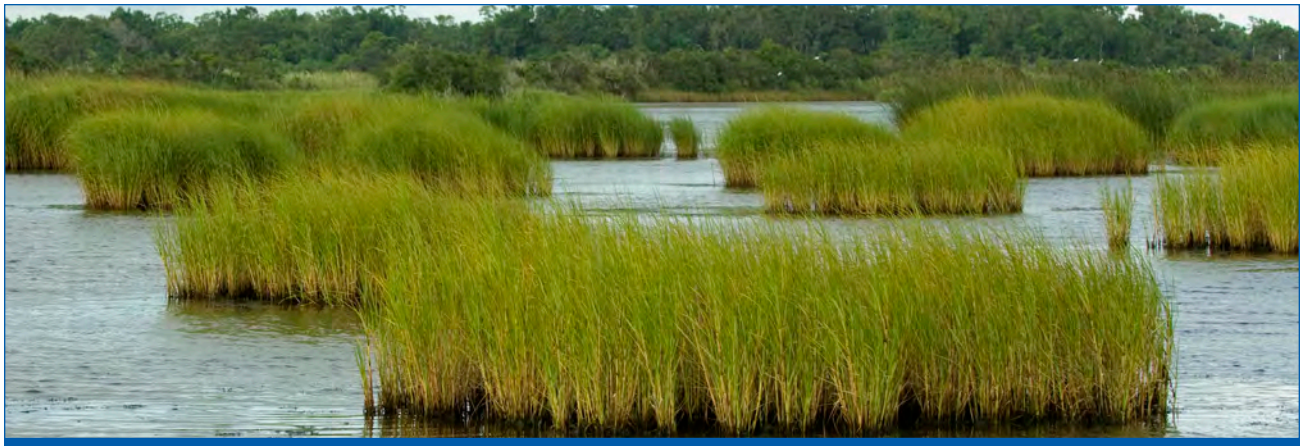
Local governments were required to use historical erosion rates and information in the statewide ERP when developing their local plans. The local ERPs were submitted to the GLO for review and certification as consistent with state law. After the GLO's approval, the plans will be posted in the Texas Register for public comment and then formally adopted by rule and incorporated in the local dune protection and beach access plans as an appendix.

Severance v. Patterson

During FY 2011, the Severance v. Patterson lawsuit (see Appendix C for more information) presented a major challenge to the Texas coast. Carol Severance, a California resident who owned front-row properties in Galveston, in conjunction with the Pacific Legal Foundation, filed a federal lawsuit claiming the Texas Open Beaches Act (OBA) violated her constitutional rights by creating an unreasonable seizure of her property and a governmental taking without just compensation.

Under the OBA the dry beach is typically subject to an easement that gives the public the right to access and use the beach. In early 2012, the Texas Supreme Court held that public beach access easements "roll" landward with gradual and imperceptible erosion of the shoreline. However, the court also held that public easements do not automatically roll inland as the result of an "avulsive" event, such as a hurricane, that "suddenly and dramatically" pushes the line of vegetation landward.

The Fifth Circuit stated that Severance had a potential "unreasonable seizure" claim in light of the Texas Supreme Court's decision. Accordingly, the Fifth Circuit has remanded the case to federal district court for further proceedings. The district court has not yet scheduled a trial date.



ASSESSMENT OF NEEDS

Each biennium, the CEPRA program receives applications for funding for various types of projects along the Texas coast. These projects may include beach/dune nourishment, marsh restoration, shoreline protection, structure relocation, debris removal, and other types of projects. However, due to limited funding many projects do not receive funding during the biennium. Table 6 includes projects that applied for but did not receive CEPRA funding during Cycle 7.

Table 6. Cycle 7 Unfunded Project Applications

Submitting Organization	Project Name & Type	County	CEPRA Funding Request	Local Match	Federal Funding	Percent Federal/CEPRA Funding	Estimated Total Project Cost
Jefferson County	Pleasure Island - Protection From Ship Wakes	Jefferson	$3,000,000		$1,000,000	33.3%	$4,000,000
Bermuda Beach Improvement Committee HOA	Bermuda Beach beach nourishment and dune restoration project	Galveston	$150,000	$50,000	$0	0.0%	$200,000
"The Condos"	Riviera I, II, and West Beach Grand	Galveston	$180,000	$60,000	$0	0.0%	$240,000
Galveston County	Bolivar Peninsula Beach and Dune Restoration	Galveston	$1,730,000		$17,086,742	987.7%	$18,816,742
Galveston County	Fort Travis Area Wetland Restoration Project	Galveston	$1,500,000		$500,000	33.3%	$2,000,000
City of Galveston	West Seawall Beach Nourishment	Galveston	$31,500,000		$15,300,000	48.6%	$42,000,000
City of Galveston	West End Beach Nourishment (original canceled project plus extension)	Galveston	$25,000,000		$17,000,000	68.0%	$42,000,000

Cycle 7 Unfunded Project Applications (Cont'd)

Submitting Organization	Project Name & Type	County	CEPRA Funding Request	Local Match	Federal Funding	Percent Federal/CEPRA Funding	Estimated Total Project Cost
City of Galveston	Beach access improvements	Galveston	$1,800,000			0.0%	$3,000,000
TPWD	Dickinson Bayou Wetland project	Galveston	$587,750	$162,250	$300,000		$1,050,000
Brazoria County Shoreline Restoration Task Force/Treasure Island MUD	Treasure Island Shoreline Stabilization and Wetland Protection Project	Brazoria	$1,800,000	$500,000	$0	0.0%	$2,300,000
Brazoria County Shoreline Restoration Task Force	Surfside Beach Drive Revetment Extension	Brazoria	$1,300,000		$325,000	25.0%	$1,715,000
Brazoria County Shoreline Task Force	Nearshore Breakwaters Surfside Beach Drive	Brazoria	$5,400,000		$0	0.0%	$9,000,000
Brazoria County Shoreline Restoration Task Force/Treasure Island MUD	Treasure Island Revetment	Brazoria	$1,800,000	$500,000	$0	0.0%	$2,300,000
Calhoun County	Port Alto Restoration Project to address emergency shoreline erosion	Calhoun	$540,000	$361,600			$901,600
Aransas County	Cedar Bayou	Aransas	$400,000		$0	0.0%	$400,000
Corpus Christi	Beach renourishment for North Padre Island	Nueces	$2,625,000		$0	0.0%	$3,500,000
TPWD	Dagger and Ransom Islands Shoreline Stabilization Project	Nueces	$123,000	$82,000	$0	0.0%	$205,000
Nueces County	Mid- and Backstacking of Sargassum to Strengthen the Fore-Dune System to Mitigate Storm Surge and Erosion Related to Tropical Storms and Hurricanes	Nueces	$277,500	$92,500	$0	0.0%	$370,000
Nueces County	Wetlands Enhancement and Habitat Restoration at Padre Balli County Park, North Padre Island	Nueces	$90,000	$60,000	$0	0.0%	$150,000

Cycle 7 Unfunded Project Applications (Cont'd)

Submitting Organization	Project Name & Type	County	CEPRA Funding Request	Local Match	Federal Funding	Percent Federal/CEPRA Funding	Estimated Total Project Cost
Nueces County	Beach Access Road Improvement, Padre Balli County Park, North Padre Island	Nueces	$609,000	$406,000	$0	0.0%	$1,015,000
City of Port Aransas	Port Aransas Nature Preserve Shoreline Stabilization Project	Nueces	$800,000	$200,000	$0	0.0%	$1,000,000
Cameron County Parks and Recreation Dept.	Bahia Grande Two Acre Peninsula Shoreline Restoration	Cameron	$504,525	$168,175	$0	0.0%	$672,700
Cameron County Parks and Recreation Dept.	Adolph Thomae Jr. County Park Shoreline Restoration Phase II	Cameron	$1,466,250		$245,000	16.7%	$1,955,000
City of Port Isabel	Derry Waterfront Park Living Shoreline	Cameron	$440,475	$151,810	$227,715		$820,000
Totals			$83,623,500	$2,794,335	$51,984,457		$139,611,042

Works Cited

Roth, David M. Texas Hurricane History. World Wide Web: http://www.hpc.ncep.noaa.gov/research/txhur.pdf (accessed April 10, 2013). Hydrometeorological Prediction Center: Camp Springs, 2010.

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For more information on the CEPRA Program

http://www.glo.texas.gov/what-we-do/caring-for-the-coast/grants-funding/cepra/index.html

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